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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,896	07/21/2003	Jiping He	130588.91469	7647
26707	7590	12/06/2005	EXAMINER	
QUARLES & BRADY LLP RENAISSANCE ONE TWO NORTH CENTRAL AVENUE PHOENIX, AZ 85004-2391			LEE, YUN HAENG	
			ART UNIT	PAPER NUMBER
			3766	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/623,896

Applicant(s)

HE ET AL.

Examiner

Yun H. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/22/03, 12/4/03, 5/13/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 6 and 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Because the claim can be reciting a part of the human body, it is directed to nonstatutory subject matter. A claim directed to or including within its scope a human being will not be considered to be patentable subject matter under 35 U.S.C. 101 since the grant of a limited, but exclusive property right in a human being is prohibited by the Constitution.

3. Examiner suggests that claims 6 and 14 be amended so that the phrase "implanted under a skin surface" is changed to "adapted to be implanted under a skin surface." For examining purposes, examiner is assuming that the suggested amendment has been made.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 3-8, 10-19, 21, 22 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanson (US Pat. No. 6,368,147). Regarding claims 1 and 4-7, Swanson discloses a percutaneous connector comprising:

- a first connector (10) coupled for receiving a plurality of electrical signals;

- a flexible substrate (from end of 40 to top thin portion of 42) coupled to the first connector and including a plurality of conductors (38) for the electrical signals;

- a stiffener substrate (bottom thick portion of 42) coupled to a portion of the flexible substrate;

- wherein the flexible substrate includes polyimide (col. 4 line 63);

- wherein the flexible substrate overlies a portion of the stiffener substrate (see fig. 3);

- wherein the flexible substrate and stiffener substrate are adapted to be implanted under a skin surface of a test subject (percutaneous);

- an electronic circuit (44) disposed on the flexible substrate above the stiffener substrate and having inputs coupled to the plurality of conductors;

- wherein the electronic circuit performs signal processing (op amps) on the electrical signals; and

- a second connector (12) supported by the stiffener substrate and coupled to an output of the electronic circuit

- wherein the second connector is a zero insertion force type connector (col. 3 lines 53-56).

Regarding claims 8 and 10-14, in addition to the above discussion, the second connector can also be viewed as an external interface.

Regarding claim 15, any electronic circuit can inherently conduct electrical signals bi-directionally.

Regarding claims 16-19 and 21, Swanson further discloses a portion forming an electrode (24) for implanting into live tissue.

Regarding claims 22 and 24-27, all the limitations have been met by the discussions above.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 9, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanson (US Pat. No. 6,368,147) in view of So, Y.H., Garrou, P.E., Im, J.-H., Scheck, D.M. "Benzocyclobutene-based Polymers for Microelectronics," Chemical Innovation, Vol. 31 (2001) pp. 40-47. Swanson does not disclose the use of benzocyclobutene in the flexible substrate or electrode. So et al. teaches that the key

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advantages of BCB-based polymers are that the curing process does not emit any volatiles and that the products from the BCB ring-opening reaction are nonpolar hydrocarbon moieties (paragraph 3 lines 4-7). Thus it would have been obvious to one of ordinary skill in the art at the time of invention to have included benzocyclobutene in the flexible substrate or electrode to take advantage of the fact that BCB-based polymers do not cause the emission of any volatiles during the curing process and also that the products from the BCB ring-opening reaction are nonpolar hydrocarbon moieties.

### ***Conclusion***

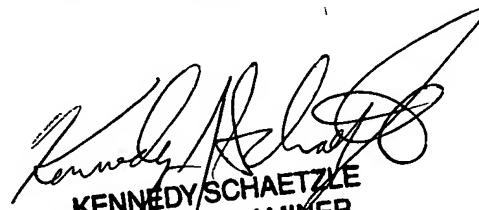
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yun H. Lee whose telephone number is (571) 272-2847. The examiner can normally be reached on M-Th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert E. Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert Pezzuto  
Supervisory Patent Examiner  
Art Unit 3766

yhl

  
KENNEDY SCHAETZLE  
PRIMARY EXAMINER  
11/23/05